

REMARKS

This is a full and timely response to the outstanding final Office Action mailed May 13, 2005. Through this response, Applicants have amended claims 1-11, 14, and 16-18, and have added new claims 19 and 20, the former which includes subject matter of original claim 1, 5, and 7 deemed allowable in the final Office Action dated 5/13/2005. Reconsideration and allowance of the application and pending claims 1-20 are respectfully requested.

I. Allowable Subject Matter

Applicants appreciate the Examiner's indication that claim 7 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims. As described above, independent claim 19 incorporates subject matter of original claim 1, 5, and 7. In that it is believed that every rejection has been overcome, it is submitted that each of the claims that remains in the case is presently in condition for allowance.

II. Claim Rejections - 35 U.S.C. § 102(b) (*Nguyen*, USPN 5,839,062)

A. Statement of the Rejection

Claims 1, 2, 5, 6, 8, 9, 12 and 13 have been rejected under 35 U.S.C. § 102(b) as allegedly anticipated by *Nguyen et al.* ("Nguyen," U.S. Pat. No. 5,839,062). Applicants respectfully traverse this rejection.

B. Discussion of the Rejection

It is axiomatic that "[a]nticipation requires the disclosure in a single prior art reference of each element of the claim under consideration." *W. L. Gore & Associates, Inc. v. Garlock, Inc.*, 721

F.2d 1540, 1554, 220 USPQ 303, 313 (Fed. Cir. 1983). Therefore, every claimed feature of the claimed invention must be represented in the applied reference to constitute a proper rejection under 35 U.S.C. § 102(b).

In the present case, not every feature of the claimed invention is represented in the *Nguyen* reference.

Independent Claim 1

As recited in independent claim 1, Applicants claim (with emphasis added):

1. A microelectromechanical system (MEMS) filter system, comprising:
a first microelectromechanical system (MEMS) resonator; and
a second MEMS resonator closely spaced and mechanically separate from the first MEMS resonator, wherein the first MEMS resonator is coupled to the second MEMS resonator through the electrostatic force acting between resonating portions of the MEMS resonators.

Applicants respectfully submit that *Nguyen* does not disclose at least the emphasized claim features. Since the coupling of the two resonators in *Nguyen* is indeed mechanical coupling, the resonators in *Nguyen* are not *mechanically separate* from each other. That is, the mechanical coupling element in *Nguyen* comes into physical contact with the resonating portions of the resonators, and thus the resonators cannot be considered as *mechanically separate* from each other. Further, coupling between resonators is not *through the electrostatic force acting between resonating portions of the MEMS resonators*. In that *Nguyen* clearly does not show the emphasized claim features, Applicants respectfully request that the rejection to independent claim 1 be withdrawn.

Because independent claim 1 is allowable over *Nguyen*, dependent claims 2-7 are allowable as a matter of law for at least the reason that the dependent claims 2-7 contain all elements of their respective base claim. See, e.g., *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988).

Independent Claim 8

As recited in independent claim 8, Applicants claim (with emphasis added):

8. A microelectromechanical system (MEMS) filter system, comprising:
a first filter, including:
a first MEMS resonator and a second MEMS resonator; and
a coupling element disposed between the first and the second MEMS resonators and mechanically separate from the resonating portions of the resonators, wherein the second MEMS resonator, the first MEMS resonator, and the coupling element are electrically coupled.

Applicants respectfully submit that *Nguyen* does not disclose at least the emphasized claim features. Since the coupling of the two resonators in *Nguyen* is indeed mechanical coupling, the resonators in *Nguyen* are not *mechanically separate* from each other. That is, the mechanical coupling element in *Nguyen* comes into physical contact with the resonating portions of the resonators, and thus the resonators cannot be considered as *mechanically separate* from each other. In that *Nguyen* clearly does not show the emphasized claim features, Applicants respectfully request that the rejection to independent claim 8 be withdrawn.

Because independent claim 8 is allowable over *Nguyen*, dependent claims 9-13 are allowable as a matter of law.

III. Claim Rejections - 35 U.S.C. § 102(b) (*Nguyen*, USPN 6,424,074)

A. Statement of the Rejection

Claims 1, 2, 4, 8, 9, 11 and 14-18 have been rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by *Nguyen et al.* (“*Nguyen*,” U.S. Pat. No. 6,424,074). Applicants respectfully traverse this rejection.

B. Discussion of the Rejection

It is axiomatic that “[a]nticipation requires the disclosure in a single prior art reference of each element of the claim under consideration.” *W. L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1554, 220 USPQ 303, 313 (Fed. Cir. 1983). Therefore, every claimed feature of the claimed invention must be represented in the applied reference to constitute a proper rejection under 35 U.S.C. § 102(b).

In the present case, not every feature of the claimed invention is represented in the *Nguyen* reference.

Independent Claim 1

Applicants respectfully submit that *Nguyen* does not disclose at least “*a second MEMS resonator closely spaced and mechanically separate from the first MEMS resonator, wherein the first MEMS resonator is coupled to the second MEMS resonator through the electrostatic force acting between resonating portions of the MEMS resonators*,” as recited in independent claim 1. Since the coupling of the resonators in *Nguyen* is indeed mechanical coupling, the resonators in *Nguyen* are not *mechanically separate* from each other. That is, the mechanical coupling element in *Nguyen* comes into physical contact with the resonating portions of the resonators, and thus the resonators cannot be considered as *mechanically separate* from each other.

Further, coupling between resonators is not *through the electrostatic force acting between resonating portions of the MEMS resonators*. In that *Nguyen* clearly does not show the emphasized claim features, Applicants respectfully request that the rejection to independent claim 1 be withdrawn.

Because independent claim 1 is allowable over *Nguyen*, dependent claims 2-7 are allowable as a matter of law.

Independent Claim 8

Applicants respectfully submit that *Nguyen* does not disclose at least “*a coupling element disposed between the first and the second MEMS resonators and mechanically separate from the resonating portions of the resonators*,” as recited in independent claim 8. Since the coupling of the resonators in *Nguyen* is indeed mechanical coupling, the resonators in *Nguyen* are not *mechanically separate* from each other. That is, the mechanical coupling element in *Nguyen* comes into physical contact with the resonating portions of the resonators, and thus the resonators cannot be considered as *mechanically separate* from each other. In that *Nguyen* clearly does not show the emphasized claim features, Applicants respectfully request that the rejection to independent claim 8 be withdrawn.

Because independent claim 8 is allowable over *Nguyen*, dependent claims 9-13 are allowable as a matter of law.

Independent Claim 14

As recited in independent claim 14, Applicants claim (with emphasis added):

14. A communications device, comprising:
a receiver; and
a microelectromechanical system (MEMS) filter system disposed in the receiver, the MEMS filter system comprising:
a first MEMS resonator; and

a second MEMS resonator closely spaced and mechanically separate from the first MEMS resonator, wherein the second MEMS resonator is electrically coupled to the first MEMS resonator.

Applicants respectfully submit that *Nguyen* does not disclose at least the emphasized claim features. Since the coupling of the resonators in *Nguyen* is indeed mechanical coupling, the resonators in *Nguyen* are not *mechanically separate* from each other. That is, the mechanical coupling element in *Nguyen* comes into physical contact with the resonating portions of the resonators, and thus the resonators cannot be considered as *mechanically separate* from each other. Thus, Applicants respectfully request that the rejection to independent claim 14 be withdrawn.

Because independent claim 14 is allowable over *Nguyen*, dependent claims 15-18 are allowable as a matter of law.

IV. Claim Rejections - 35 U.S.C. § 102(e) (Zurn, USPN 6,621,134)

A. Statement of the Rejection

Claims 1, 2, 4, 8, 9, 11, 14, 17 and 18 have been rejected under 35 U.S.C. § 102(e) as allegedly anticipated by *Zurn* (“*Zurn*,” U.S. Pat. No. 6,621,134). Applicants respectfully traverse this rejection.

B. Discussion of the Rejection

It is axiomatic that “[a]nticipation requires the disclosure in a single prior art reference of each element of the claim under consideration.” *W. L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1554, 220 USPQ 303, 313 (Fed. Cir. 1983). Therefore, every claimed feature of the claimed invention must be represented in the applied reference to constitute a proper rejection under 35 U.S.C. § 102(e).

In the present case, not every feature of the claimed invention is represented in the *Zurn* reference.

Independent Claim 1

Applicants respectfully submit that *Zurn* does not disclose at least “*a second MEMS resonator closely spaced and mechanically separate from the first MEMS resonator, wherein the first MEMS resonator is coupled to the second MEMS resonator through the electrostatic force acting between resonating portions of the MEMS resonators*,” as recited in independent claim 1. In that *Zurn* clearly does not show at least the emphasized claim features, Applicants respectfully request that the rejection to independent claim 1 be withdrawn.

Because independent claim 1 is allowable over *Zurn*, dependent claims 2-7 are allowable as a matter of law.

Independent Claim 8

Applicants respectfully submit that *Zurn* does not disclose at least “*a coupling element disposed between the first and the second MEMS resonators and mechanically separate from the resonating portions of the resonators*,” as recited in independent claim 8. In that *Zurn* clearly does not show at least the emphasized claim features, Applicants respectfully request that the rejection to independent claim 8 be withdrawn.

Because independent claim 8 is allowable over *Zurn*, dependent claims 9-13 are allowable as a matter of law.

Independent Claim 14

Applicants respectfully submit that *Zurn* does not disclose at least “*a second MEMS resonator closely spaced and mechanically separate from the first MEMS resonator, wherein the second MEMS resonator is electrically coupled to the first MEMS resonator*,” as recited in

independent claim 14. In that *Zurn* clearly does not show at least the emphasized claim features, Applicants respectfully request that the rejection to independent claim 14 be withdrawn.

Because independent claim 14 is allowable over *Zurn*, dependent claims 15-18 are allowable as a matter of law.

V. Claim Rejections - 35 U.S.C. § 102(e) (Thompson, USPN 6,535,766)

A. Statement of the Rejection

Claims 1, 2, 4, 8, 9, 11, 14, 17 and 18 have been rejected under 35 U.S.C. § 102(e) as allegedly anticipated by *Thompson et al.* (“*Thompson*,” U.S. Pat. No. 6,535,766). Applicants respectfully traverse this rejection.

B. Discussion of the Rejection

It is axiomatic that “[a]nticipation requires the disclosure in a single prior art reference of each element of the claim under consideration.” *W. L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1554, 220 USPQ 303, 313 (Fed. Cir. 1983). Therefore, every claimed feature of the claimed invention must be represented in the applied reference to constitute a proper rejection under 35 U.S.C. § 102(e).

In the present case, not every feature of the claimed invention is represented in the *Thompson* reference.

Independent Claim 1

Applicants respectfully submit that *Thompson* does not disclose at least “*a second MEMS resonator closely spaced and mechanically separate from the first MEMS resonator, wherein the first MEMS resonator is coupled to the second MEMS resonator through the*

electrostatic force acting between resonating portions of the MEMS resonators,” as recited in independent claim 1. In that *Thompson* clearly does not show at least the emphasized claim features, Applicants respectfully request that the rejection to independent claim 1 be withdrawn.

Because independent claim 1 is allowable over *Thompson*, dependent claims 2-7 are allowable as a matter of law.

Independent Claim 8

Applicants respectfully submit that *Thompson* does not disclose at least “*a coupling element disposed between the first and the second MEMS resonators and mechanically separate from the resonating portions of the resonators,”* as recited in independent claim 8. In that *Thompson* clearly does not show at least the emphasized claim features, Applicants respectfully request that the rejection to independent claim 8 be withdrawn.

Because independent claim 8 is allowable over *Thompson*, dependent claims 9-13 are allowable as a matter of law.

Independent Claim 14

Applicants respectfully submit that *Thompson* does not disclose at least “*a second MEMS resonator closely spaced and mechanically separate from the first MEMS resonator, wherein the second MEMS resonator is electrically coupled to the first MEMS resonator,”* as recited in independent claim 14. In that *Thompson* clearly does not show at least the emphasized claim features, Applicants respectfully request that the rejection to independent claim 14 be withdrawn.

Because independent claim 14 is allowable over *Thompson*, dependent claims 15-18 are allowable as a matter of law.

VI. Claim Rejections - 35 U.S.C. § 103(a)

A. Rejection of Claims 3 and 10

Claims 3 and 10 have been rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over *Zurn* or *Thompson* in view of *Johnson* (“*Johnson*,” U.S. Pat. No. 3,858,127). Applicants respectfully traverse this rejection.

B. Discussion of the Rejection

As has been acknowledged by the Court of Appeals for the Federal Circuit, the U.S. Patent and Trademark Office (“USPTO”) has the burden under section 103 to establish a *prima facie* case of obviousness by showing some objective teaching in the prior art or generally available knowledge of one of ordinary skill in the art that would lead that individual to the claimed invention. *See In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). It is respectfully asserted that no such *prima facie* case of obviousness has been made in the present outstanding Office Action.

Initially, it is respectfully noted that neither *Zurn* nor *Thompson* discloses the explicit claim features of independent claims 1, 8, and 14. *Johnson* does not remedy these deficiencies. Since the dependent claims 3 and 10 contain all of the features of their respective base, and neither of the references cited disclose, teach, or suggest the independent claim features, Applicants respectfully submit that dependent claims 3 and 10 are allowable over the cited reference. Further, Applicants respectfully request that the rejections to claims 3 and 10 be withdrawn.

In summary, it is Applicants’ position that a *prima facie* for obviousness has not been made against Applicants’ claims. Therefore, it is respectfully submitted that each of these claims is

patentable over *Zurn, Thompson, and/or Johnson*, and that the rejection of these claims should be withdrawn.

VII. Newly Added Claims

As identified above, claims 19 and 20 have been added into the application through this response. Applicants respectfully submit that these new claims describe an invention novel and unobvious in view of the prior art of record and, therefore, respectfully requests that these claims be held to be allowable.

CONCLUSION

Applicants respectfully submit that Applicants' pending claims are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. Any other statements in the Office Action that are not explicitly addressed herein are not intended to be admitted. In addition, any and all findings of inherency are traversed as not having been shown to be necessarily present. Furthermore, any and all findings of well-known art and official notice, and similarly interpreted statements, should not be considered well known since the Office Action does not include specific factual findings predicated on sound technical and scientific reasoning to support such conclusions. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (770) 933-9500.

Respectfully submitted,



David Rodack
Registration No. 37,034

**THOMAS, KAYDEN,
HORSTEMEYER & RISLEY, L.L.P.**
Suite 1750
100 Galleria Parkway N.W.
Atlanta, Georgia 30339
(770) 933-9500